

can be a frightening situation for children and parents, and even in the best of situations, using currently available teaching tools, children and parents can be overwhelmed with an abundance of new medical information in a very short period of time. Studies have shown that medical experiences for young children are less frightening if introduced through play. Additionally, if children are at ease with the situation, parents are more able to concentrate and digest the information. By providing a comfortable, non-threatening, learning environment, the possibility for more successful retention of relevant information by parent and child is extended. The acquisition of relevant knowledge should therefore occur in a comfortable setting using a process adapted to young children, such as medical play. The challenge is to educate young children in a manner that is age-appropriate and appropriate for each individual child's case.

[0009] New research also supports patient education as a means to increased adherence to prescribed medical treatment plans. Further, this research notes higher levels of retention, adherence to treatment plans, and the outcomes desired by patient and physician, when the patient health education for children is presented in an interactive, technological format.

[0010] Thus, there exists a continuing need in the art for an improved instructional and educational resource, which is relevant to childhood chronic illnesses.

SUMMARY OF THE INVENTION

[0011] The present invention provides an interactive toy for use by a child learning about chronic illnesses. The toy, which may be in the shape of a doll has at least one internal proximity switch disposed at various locations inside the doll. Also present inside the toy are one or more internal electrical wires connecting the proximity switch to an internal microprocessor. Still further included in the toy is an audio speaker connected to the internal microprocessor, wherein, upon activation of the microprocessor, said doll is capable of producing audible sound from the audio speaker. The inventive toy is capable of producing coughing and/or wheezing sounds.

[0012] The inventive toy may also be present in combination with an item of pseudo-medical equipment. The pseudo-medical equipment has an activator which triggers a sensor when brought into close proximity with the toy. When the pseudo-medical equipment is brought into close proximity with the toy, and the sensor is triggered, an internal electrical circuit is completed and a signal is sent to the internal microprocessor. In one preferred embodiment, the activators are permanent magnets that trigger proximity switches, and microchips which passively couple to a radio frequency (RF) sensing system. The pseudo-medical equipment may be in the form of any item normally used in the treatment of the illness such as a stethoscope, a peak flow meter, an inhaler, a nebulizer having a medicine-dispensing unit, which are used with regularity in the treatment of asthma, or other illness-related pseudo-medical item. Any of a variety of additional types of switches and triggers may be selected by those skilled in the art. Some pseudo-medical equipment items may contain only one activator, while others may contain more, such as an inhaler which, in one embodiment, is recognized via a body cavity RF sensing

system, and also by a proximity switch located in the doll's mouth. Detection at a different location of the doll's body causes a different reaction from the doll.

[0013] Still further included in the inventive toy is at least one contact sensor located beneath the outer covering of the toy and disposed at various locations of the body of the toy. The contact sensor is connected to the internal microprocessor by electrical wires. When depressed, a completed circuit causes a response, or series of response from the doll. In one embodiment, depressing the hand, which contains such a sensor, causes the doll to produce a coughing sound.

[0014] The invention as described herein contains numerous types of sensor and trigger systems. In one embodiment, a RF sensor resides in the doll's body cavity and is triggered when the equipment comes in close proximity with a passively activated microchip located in each item of pseudo-medical equipment. In one embodiment a contact sensor in one hand of the doll is triggered by depression of the doll's hand, forcing two metal plates to make contact. A plurality of magnetic switches are located at various positions within the doll's body, such as in the mouth, and the torso, and are triggered by close proximity to pseudo-medical equipment items that contain permanent magnets. In any embodiment, each activated sensor/trigger feeds a unique signal to the microprocessor to trigger a distinct audible response from the doll.

[0015] Also included in the present invention is a kit suitable for use by a child, which kit includes the inventive toy, at least one item of pseudo-medical equipment, and a knapsack for storing and carrying the doll and pseudo-medical equipment. The kit may also include a book, wherein the words of the book are programmed into the inventive toy, and wherein upon activation of the toy, audible sounds are produced which correspond to the words of the book.

BRIEF DESCRIPTION OF THE DRAWINGS

[0016] FIG. 1A is a front view of the female clothed doll in accordance with one embodiment of the present invention.

[0017] FIG. 1B is a back view of the female clothed doll in accordance with the present invention.

[0018] FIG. 1C is a side view of the female clothed doll in accordance with the present invention.

[0019] FIG. 2A is a front view of the male clothed doll in accordance with the present invention.

[0020] FIG. 2B is a back view of the male clothed doll in accordance with the present invention.

[0021] FIG. 2C is a side view of the male clothed doll in accordance with the present invention.

[0022] FIG. 3 is a close-up front facial view of the female and male doll in accordance with the present invention. The facial views are also included as facial pictures on the patient chart in accordance with the present invention.

[0023] FIG. 4 is a front cut-away view of the female doll in accordance with the present invention without clothing, showing locations of internal sensors in accordance with the asthma version of the present invention.